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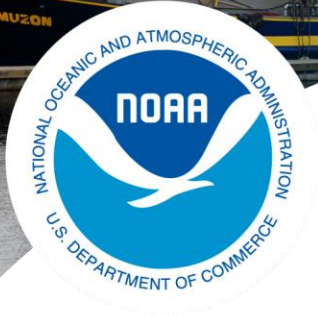
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Overview and history of North Pacific billfish fisheries

Focusing on swordfish as a data-moderate species in the North Pacific

Stephen Stohs, Economist and HMS Management Team Vice Chair

July 31, 2013



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Overview

- Brief history of North Pacific billfish fisheries
- North Pacific swordfish fisheries
- U.S. West Coast swordfish fisheries
- West Coast swordfish fisheries data collection
- SWFSC swordfish assessment role



Pacific billfish species



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- Pacific sailfish
- Spearfish (CA, HI)
- Swordfish (CA, HI)
- Pacific blue marlin (HI)
- Black marlin (HI)
- Striped marlin (CA, HI)

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Brief history of North Pacific billfish fisheries



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- Pre-20th century fishery was artisanal (e.g. harpoon)
- Recreational billfish fisheries have existed since the early 20th century (e.g. West Coast striped marlin fishery)
- Post-1950 saw the introduction and development of industrial gear (e.g. longline, drift gillnet)
- Pacific species with significant commercial catch over the 1955-1985 period included striped marlin, black marlin, blue marlin, sailfish, and shortbill spearfish
- Conservation concerns have recently limited the U.S. West Coast commercial fishery to swordfish

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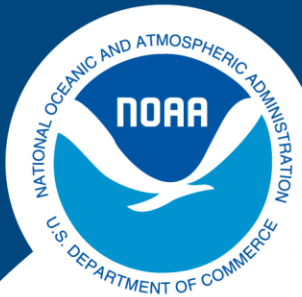
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North Pacific swordfish fisheries

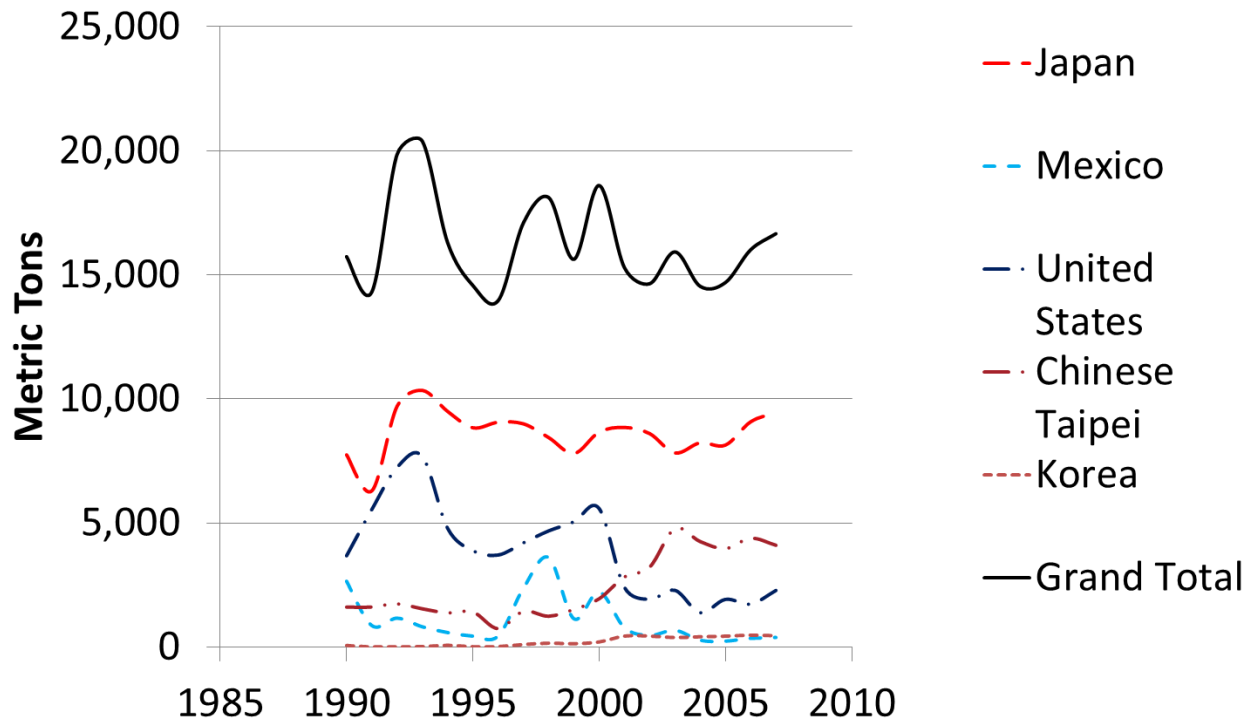
- Primary gear is longline, with limited amounts of drift gillnet and harpoon effort
- Other gears (e.g. deep-set buoy) are in the experimental stage of development
- Assessments rely on fishery dependent data
- Catch data are reasonably complete
- A mixture of targeted and nontargeted effort creates a challenge for characterizing the catch-effort relationship

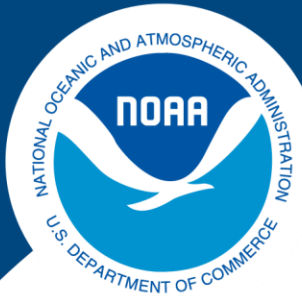
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North Pacific swordfish catch, 1990-2007

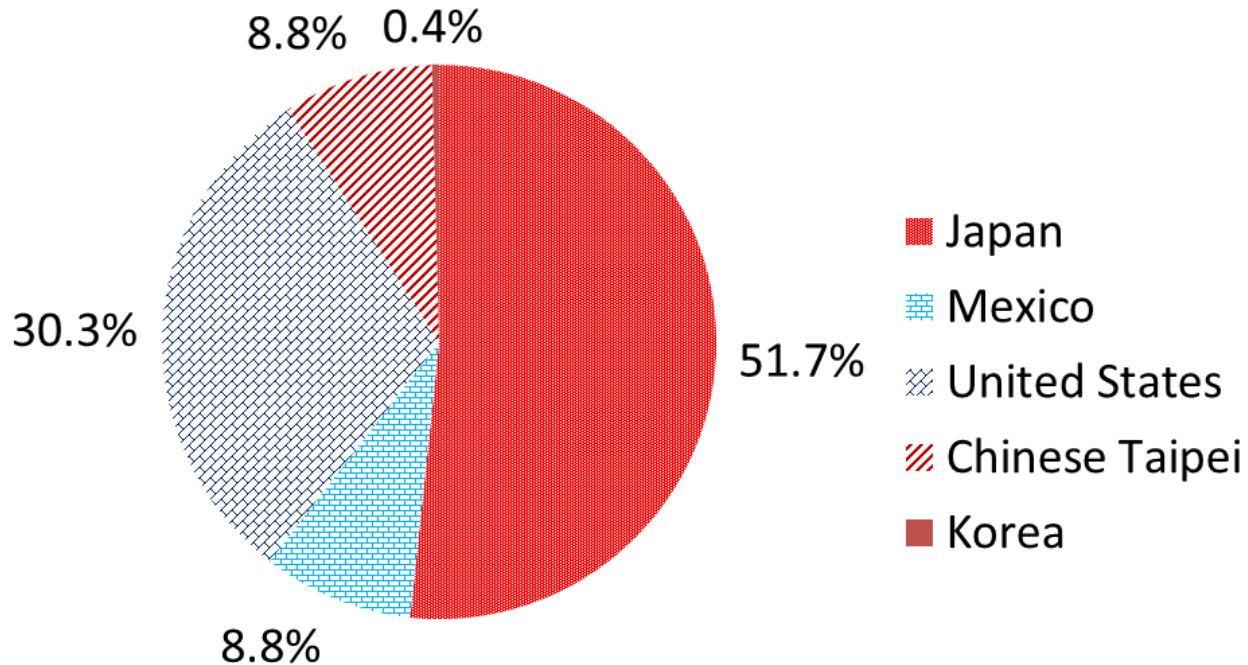


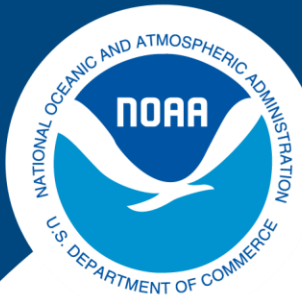


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Average Shares of NP SWO Catch, 1990-2000

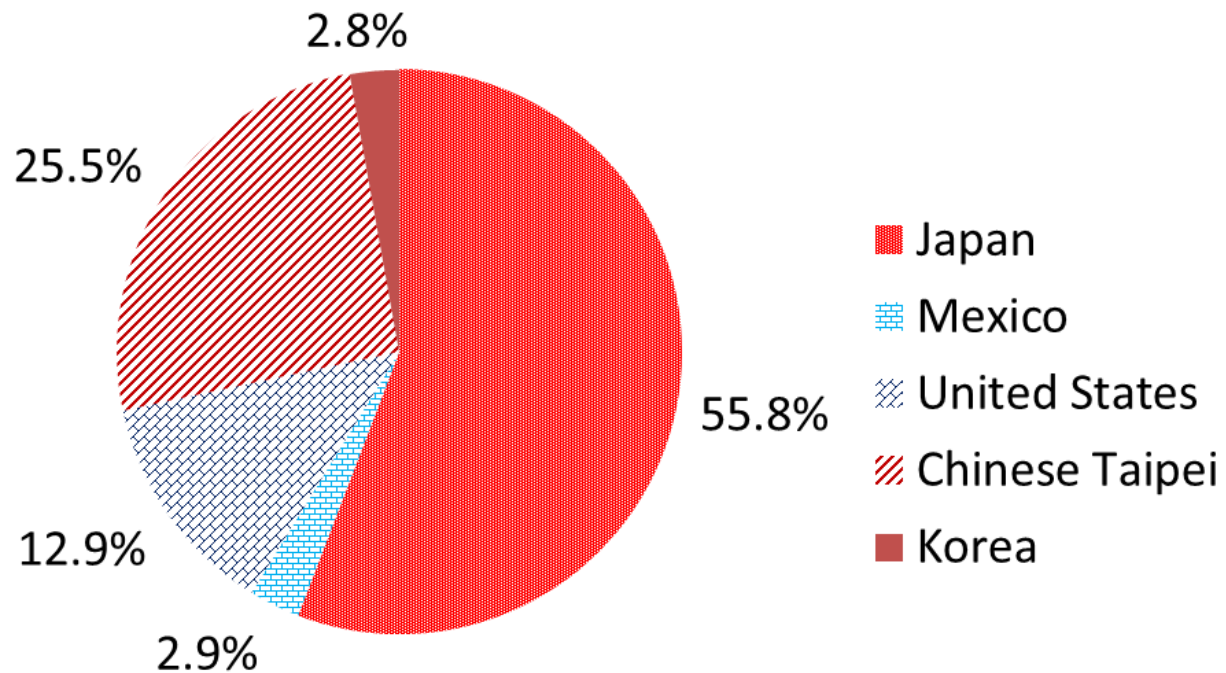




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Average Shares of NP SWO Catch, 2001-2007





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U.S. West Coast swordfish fisheries

- Harpoon
- Drift Gillnet
- Longline
- Experimental (Deep-set longline, buoy gear)

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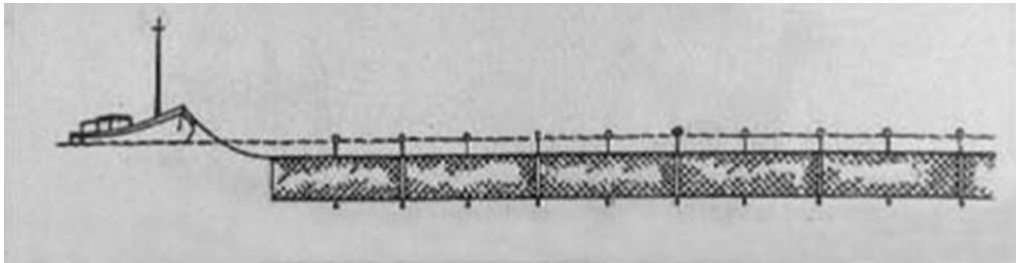
Harpoon





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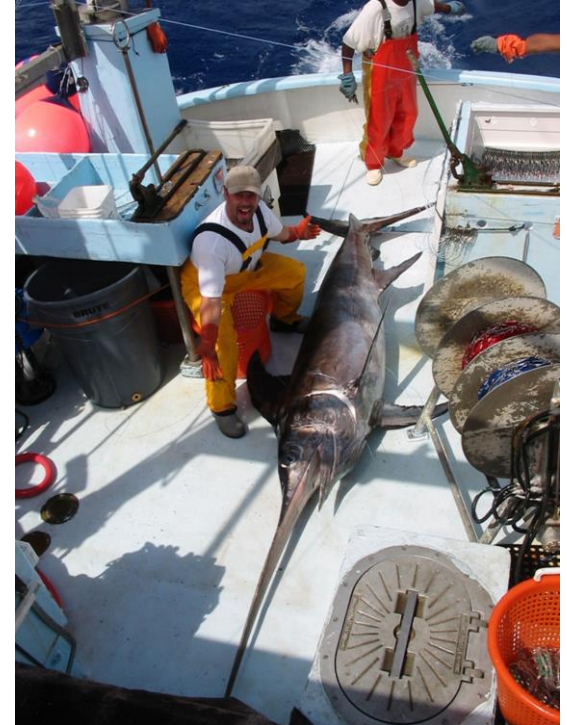
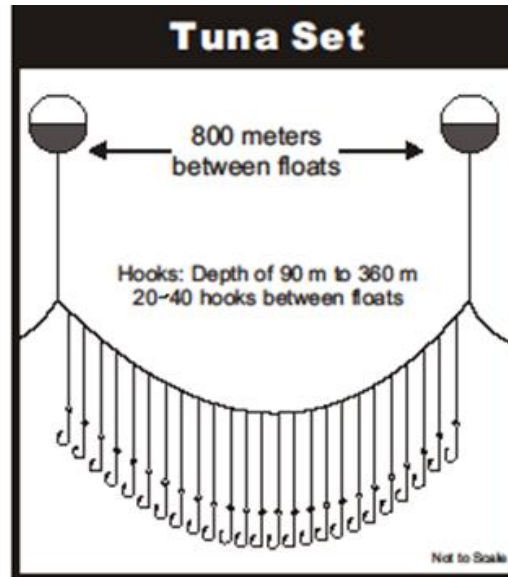
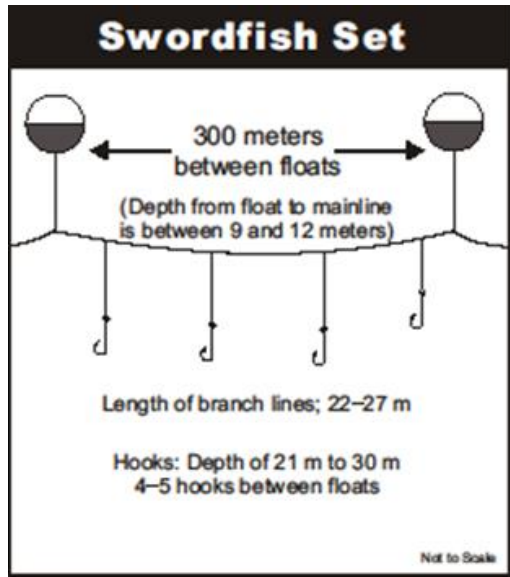
Drift Gillnet





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Longline

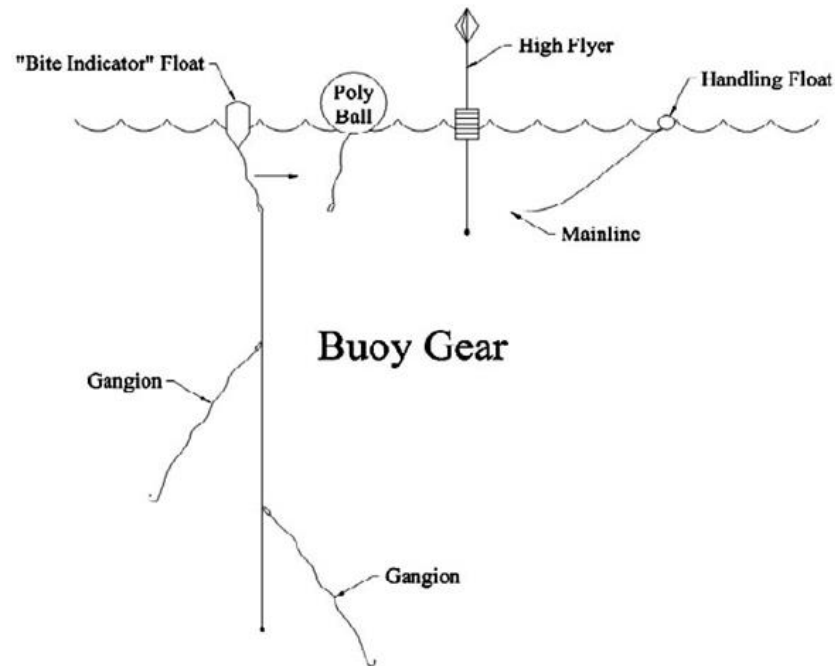




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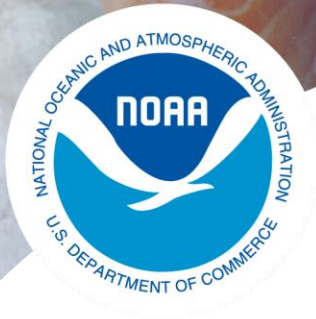
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Buoy Gear



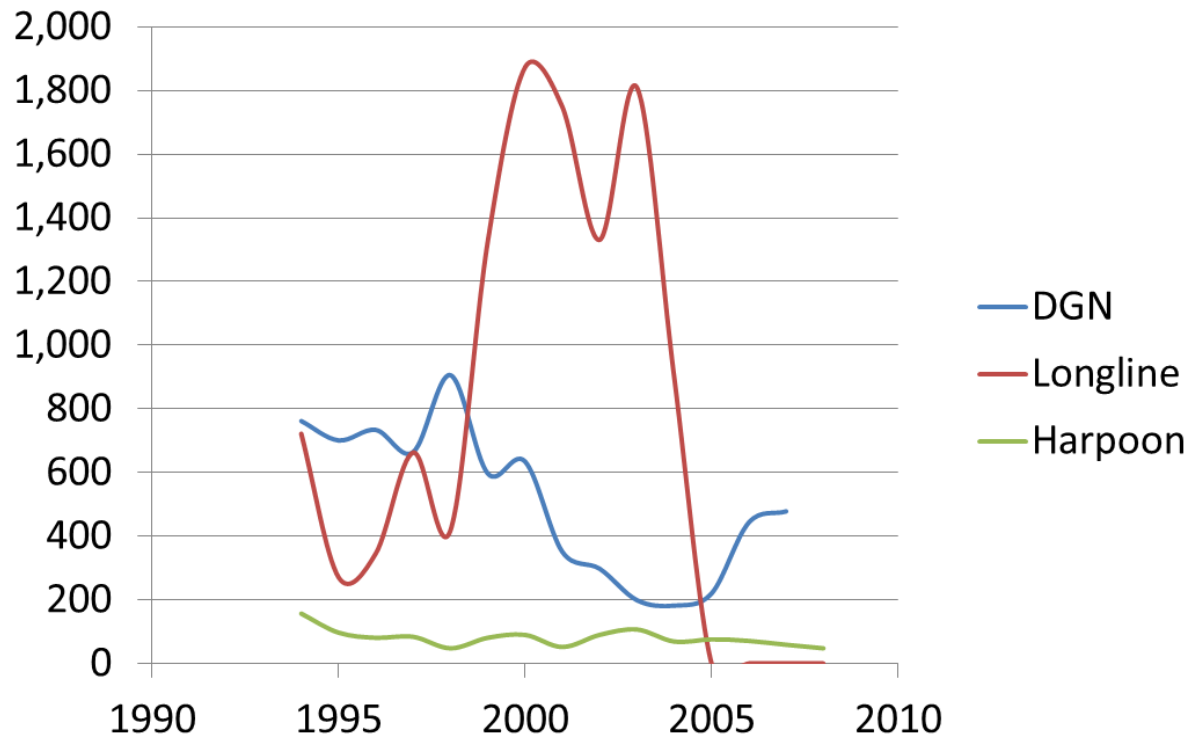
Switching gears in the Gulf of Mexico – Alternatives to Surface Longlines
Sea Grant Louisiana

Commercial landings (round mt) in the U.S. West Coast swordfish fishery, 1994-2008



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West Coast swordfish fisheries dependent data collection

- Landings (PacFIN)
- Logbook (State / NOAA)
- Observer (NOAA SWR)

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SWFSC role in swordfish assessments

- SWFSC staff participate in the international RFMO assessment process (e.g. on the ISC billfish working group)
- The SWFSC data group plays a supporting role in organizing and submitting fisheries-dependent assessment data to the ISC

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Strengths: - Regular assessments with international participation

- Reasonably complete catch data

Challenges: - Allowing U.S. swordfish production at optimum yield while meeting federal protected species mandates

- Reducing dependence on imports

Strategies: - Bycatch reduction research

- Avoid regulating U.S. fisheries more stringently than other nations' fisheries



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References

- Mather, Charles O., Billfish: Marlin • Broadbill • Sailfish. (1976)
- Ueyanagi, Shoji, Richard S. Shomura, Yoh Watanabe, and James L. Squire. 1989. Trends in the Fisheries for Billfishes in the Pacific. Proceedings of the Second International Billfish Symposium Kailua-Kona, Hawaii, August 1-5, 1988.
- Fishery Management Plan for U.S. West Coast Fisheries for Highly Migratory Species. 2011. Pacific Fishery Management Council.

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